

# Adhemax<sup>®</sup> PA

## Plating of polyamides



General Metal Finishing

Plating on plastics

atotech.com

## The next generation plating of PA

### Why polyamides?

Polyamide (PA) proved itself suitable for a great variety of industrial applications, such as door handles for the automotive industry. The reason behind the successful decorative plating of polyamides are the molding parameters, providing high adhesion.

With its semi-crystalline structure, polyamide is inherently stronger and more rigid than ABS or ABS/PC blends. Being a thermoplastic, polyamide can be promptly processed from liquid state. In addition to that, it shows an excellent low-friction behaviour and a good coefficient of thermal expansion in combination with the metals normally used for electroplating. Polyamide has a high impact strength and a good elasticity, it is abrasion resistant and reduces vibrations.



### Reliable, sustainable, economical

In order to face the challenges of plating on polyamide and following a sustainable approach, Atotech introduced the latest generation process for plating on polyamide: Adhemax<sup>®</sup> PA. Due to the new developed process steps, Adhemax<sup>®</sup> PA offers more reliable adhesion values than previous generations. It also reduces the required amount of palladium in the activation step. This makes Adhemax<sup>®</sup> PA the best choice for reliable, sustainable and economical plating on polyamides.

### Features and benefits

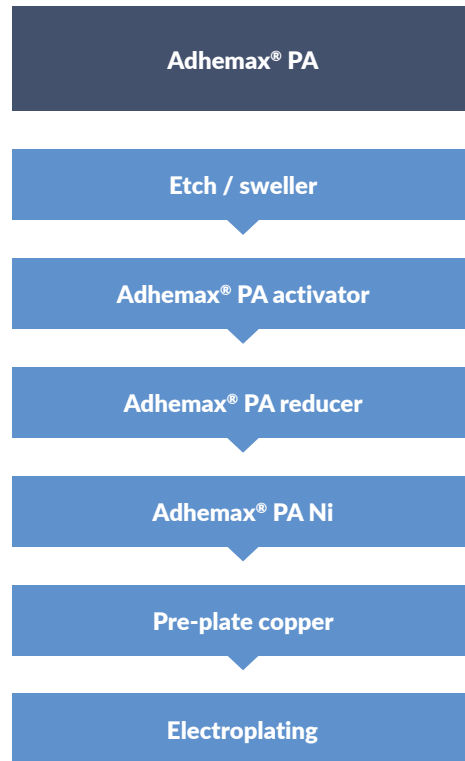
- Wide working window with stable and consistent processing
- Low Pd concentrations
- Reliable adhesion of electroplated layers
- Reduced plating reject, economical technology
- Lead-free electroless nickel system

# Innovative plating on polyamide



Figure 1-2:  
Examples of automotive  
door handles

## Adhemax® PA process sequence



### STEP 1: Etch / sweller

Etching sets the scene for quality processing of plastic materials, allowing to prepare the polyamide to increase Pd adsorption on the surface and increase adhesion of the electroplated layers.

### STEP 2: Activation

The activator – especially developed for polyamide – provides the required Pd adsorption on the surface.

### STEP 3: Reduction

Pd ions are reduced to Pd metal, that will then act as catalyst for the electroless nickel growth.

### STEP 4: Electroless nickel

Adapted to work with polyamide, the electroless nickel provides the continuous metallic conductive layer necessary for the next electroplating steps.

## Electroplating

Atotech offers greatly compatible acid copper systems, especially developed for plating on plastics.

- Cupracid® family (dye-based)
- CuFlex® family (dye-free)

